Listing of Claims:

1. (currently amended) A method for transmitting a stream of audio data from an audio source to a receiver for decoding, said method comprising the steps of:

(a) formatting the stream of audio data provided by the audio source into a sequence of audio data intervals;

(b) transform encoding ~~said~~ the sequence of audio data intervals to form a sequence of encoded audio data intervals, each of the ~~said~~ encoded audio data intervals having a plurality of transform coefficients;

(c) analyzing ~~said~~ the transform coefficients of the sequence of encoded audio data intervals in the sequence so as to identify ~~at least one~~ encoded transient audio data ~~interval~~,intervals, each of the ~~said~~ encoded transient audio data ~~interval~~ intervals including a short transient signal having first transient signal characteristics; and

(d) embedding ancillary data into ~~a said~~ encoded audio data ~~interval~~intervals preceding ~~said~~ the encoded transient audio data ~~interval~~,intervals, the ~~said~~ ancillary data providing notification that ~~said~~ the encoded transient audio data ~~interval includes~~intervals include the ~~said~~ short transient ~~signal~~signals.

2. (currently amended) A method as in claim 1 wherein ~~said~~ the audio data intervals are formatted as pulse code modulation data.

3. (currently amended) A method as in claim 1 wherein ~~said~~ step ~~of transform encoding~~(b) comprises ~~the step of~~ applying a modified discrete cosine transform to ~~said~~ the sequence of audio data intervals.

4. (currently amended) A method as in claim 1 wherein ~~said~~ step ~~of transform encoding~~(b) comprises ~~the step of~~ applying a shifted discrete Fourier transform to ~~said~~ the sequence of audio data intervals.

5. (currently amended) A method as in claim 1 wherein ~~said~~ step ~~of analyzing~~(c) comprises, as to each of the encoded audio data intervals in the sequence, ~~the step of~~ performing a frequency analysis on ~~said~~ the transform coefficients to detect ~~a~~ the short transient signal.

6. (currently amended) A method as in claim 5 wherein ~~said step of~~ performing a frequency analysis comprises ~~the step of~~ extracting a feature ~~value~~ vector from ~~said~~ the transform coefficients.

7. (currently amended) A method as in claim 6 wherein ~~said~~ the feature vector comprises a member of ~~the~~ a group consisting of a primitive band energy value, an element-to-mean ratio of band energy, and a differential band energy value.

8. (currently amended) A method as in claim 5 wherein ~~said step of~~ performing a frequency analysis comprises ~~the step of~~ applying a shifted discrete Fourier transform.

9. (currently amended) A method as in claim 1 further comprising the steps of:

sending ~~said~~ the encoded audio data intervals having ~~said~~ the ancillary information to ~~the~~ a receiver; and

subsequently sending ~~said~~ the encoded transient audio data ~~interval~~ intervals to the receiver.

10. (currently amended) A method as in claim 1 wherein ~~said~~ the short transient signal comprises a drumbeat.

11. (currently amended) A method as in claim 1 further comprising the steps of:

(e) analyzing the sequence of encoded audio data intervals to identify encoded transient audio data intervals which include a short transient signal having second transient signal characteristics; and

(f) embedding a second type of ancillary data into encoded audio data intervals of the sequence that precede the encoded transient audio data intervals including the short transient signal having second transient signal characteristics, the second type of ancillary data providing notification of the encoded transient audio data intervals including the short transient signal having second transient signal characteristics.

~~the step of analyzing said sequence of encoded audio data intervals to identify a second encoded transient audio data interval, said second encoded transient audio data interval including a second short transient signal having second transient signal characteristics.~~

12. (currently amended) A method for decoding a sequence of transform-encoded audio data intervals to produce an audio sample, ~~said method~~ comprising the steps of:

(a) ~~inverse transform decoding the sequence of~~receiving transform-encoded audio data intervals of a sequence of transform-encoded audio data intervals, each of the intervals ~~to yield a sequence of decoded audio data intervals~~ having a plurality of transform coefficients, wherein less than all of the intervals are transient intervals, and wherein each of the transient intervals corresponds to an audio segment that includes a beat;

(b) ~~retrieving~~ receiving ancillary data identifying the transient intervals; ~~from said sequence of decoded audio data intervals, said ancillary data for identifying a said decoded audio data interval having a short transient signal as a transient decoded audio data interval;~~

(c) identifying transient intervals of the sequence that are ~~a~~ defective; and ~~decoded audio data interval in said sequence of decoded audio data intervals;~~

(d) replacing transform coefficients of the defective transient intervals with transform coefficients from received transient intervals not identified as defective. ~~said identified defective decoded audio data interval with one of said sequence of decoded audio data intervals not having a short transient signal to form a replacement decoded audio data interval if said identified defective audio data interval was not identified as said defective decoded audio data interval; and~~

~~replacing at least a portion of said identified defective decoded audio data interval with at least a portion of one of said sequence of decoded audio data intervals having a short transient signal form a replacement decoded transient audio data interval if said identified defective audio data interval was identified as a said defective decoded audio data interval.~~

13. (currently amended) A method as in claim 12 wherein ~~said~~ step (c) ~~defective decoded audio data interval~~ comprises determining whether a transient interval of the sequence is ~~one of a~~ corrupted ~~decoded audio data interval and~~or ~~a~~ missing ~~decoded audio data interval~~.

14. (currently amended) A method as in claim 12 wherein step (d) comprises, as to each of the defective transient intervals, replacing the transform coefficients of the defective transient interval with transform coefficients from a previously-received transient interval. ~~said step of replacing said defective decoded audio data interval comprises the step of substituting a sequentially previous decoded audio data interval for said defective decoded audio data interval.~~

15. (canceled)

16. (canceled)

17. (currently amended) A method as in claim 12 further comprising the ~~steps~~ step of:

(e) converting ~~said decoded audio data~~ received intervals not identified as defective and the intervals having replacement coefficients ~~not identified as defective~~ to formatted audio samples~~; and~~

~~converting said replacement audio data intervals to formatted audio samples~~.

18. (currently amended) A method as in claim 17 wherein ~~said~~ the formatted audio samples are pulse code modulation formatted.

19. (currently amended) A method as in claim 12 wherein ~~said~~ step ~~of replacing~~ (d) comprises, as to each of the defective transient intervals,

(d1) matching a window type of the defective transient interval with a window type of a received transient interval not identified as defective, and

(d2) replacing transform coefficients of the defective transient interval with transform coefficients from the matching received non-defective transient interval.~~at least a portion of said identified defective decoded audio data interval comprises the step of matching the window type of said~~

~~replacement decoded audio data interval with the window type of said identified defective decoded audio data interval.~~

20. (currently amended) A device for transmitting streaming audio information, said device comprising:

an encoder for formatting the audio information into a sequence of audio data intervals and for transform encoding said sequence of audio data intervals to form a sequence of coded audio data intervals; and

a transient detector for identifying, by analysis of frequency domain transfer coefficients of the coded audio data intervals, at least one of the~~said~~ coded audio data ~~interval~~ intervals corresponding to an audio data interval having a short transient signal, ~~as a transient coded audio data interval.~~

21. (currently amended) A device for concealing errors in a sequence of encoded audio data intervals, said device comprising:

a decoder configured to perform steps that include

(a) receiving transform-encoded audio data intervals of a sequence of transform-encoded audio data intervals, each of the intervals having a plurality of transform coefficients, wherein less than all of the intervals are transient intervals, and wherein each of the transient intervals corresponds to an audio segment that includes a beat,

(b) retrieving ancillary data identifying the transient intervals, and

(c) identifying transient intervals of the sequence that are defective;~~for decoding said sequence of encoded audio data intervals to yield a sequence of decoded audio data intervals, said decoder also for identifying a defective said decoded audio data interval in said sequence of decoded audio data intervals, said decoder further for retrieving ancillary data from said sequence of decoded audio data intervals, said ancillary data for indicating which said decoded audio data interval includes a transient signal;~~ and

an error concealment unit configured to perform a step that includes

(d) providing replacement transform coefficients for defective transient intervals, wherein the replacement transform coefficients are obtained from received transient intervals not identified as defective.~~for replacing said defective decoded audio data interval with a non-defective decoded audio data interval including a transient signal if said defective decoded audio data interval originally included a transient signal.~~

22. (currently amended) A device as in claim 21 further comprising a buffer for storing ~~said~~ at least one received ~~non-defective decoded audio data interval including a~~ transient ~~signal~~interval not identified as defective.

23. (currently amended) An error concealment system suitable for use in converting audio streaming information into an audio sample, ~~said~~ the error concealment system comprising:

an audio source for providing the audio streaming information, ~~said~~ the audio source including an encoder for converting the audio streaming information into a sequence of coded audio data intervals, each of the coded audio data intervals having a plurality of frequency domain transform coefficients, and a transient detector for classifying, by analysis of frequency domain transform coefficients, ~~a~~ coded audio data ~~interval~~ intervals of the sequence that have~~having~~ a short transient signal as ~~a~~ transient coded audio data ~~interval;~~intervals; and

a receiving terminal for converting ~~said~~ the sequence of coded audio data intervals into the audio sample, ~~said~~ the receiving terminal including an error concealment unit for replacing frequency domain transform coefficients of a defective ~~said~~ transient audio data interval with ~~an error-free~~frequency domain transform coefficients from a received transient audio data interval found to be error-free.

24. (currently amended) An error concealment system as in claim 23 wherein ~~said~~ the receiving terminal further comprises a decoder for decoding ~~said~~ the sequence of coded audio data intervals.

25. (currently amended) An error concealment system as in claim 23 further comprising a telecommunications network connecting ~~said~~ the receiving terminal with ~~said~~ the audio source.

26. (currently amended) An error concealment system as in claim 25 wherein ~~said~~ the telecommunications network comprises a wired network suitable for access by a telephone.

27. (currently amended) An error concealment system as in claim ~~23~~ 25 wherein ~~said~~ the telecommunications network comprises a member of the group consisting of a Global System for Mobile Communications (GSM), a General Packet Radio Service (GPRS), a Wideband CDMA (WCDMA), a DECT, a wireless LAN (WLAN), and a Universal Mobile Telecommunications System (UMTS).

28. (currently amended) An error concealment system as in claim 23 wherein ~~said~~ the audio source comprises a member of the group consisting of a server unit, a microphone, a personal digital assistant, and a mobile phone.

29. (currently amended) An error concealment system as in claim 23 wherein ~~said~~ the receiving terminal comprises a member of the group consisting of a mobile phone, a personal digital assistant, and a computer.

30. (new) A method as in claim 1 wherein

each of the encoded audio data intervals has a plurality of frequency domain transform coefficients, and

step (c) comprises analyzing the frequency domain transform coefficients of the sequence of encoded audio data intervals to identify encoded transient audio data intervals.

31. (new) A method as in claim 1 wherein the ancillary data in each of the preceding encoded audio data intervals is distinct from data identifying a sampling window applicable to the encoded audio data transient interval for which that ancillary data provides notification.

32. (new) A method as in claim 12, further comprising the step of:

(e) identifying each of multiple transient intervals received in step (a) by a type of beat in the audio segment to which that transient interval corresponds, and wherein step (d) comprises, as to each of the defective transient intervals,

(d1) matching the beat type of the defective transient interval with the beat type of a non-defective received transient interval, and

(d2) replacing transform coefficients of the defective transient interval with transform coefficients from the matching non-defective received transient interval.

33. (new) A method as in claim 12, further comprising the step of:

(e) identifying each of multiple transient intervals received in step (a) by a type of beat in the audio segment to which that transient interval corresponds, and wherein step (d) comprises, as to each of the defective transient intervals,

(d1) matching a window type and the beat type of the defective transient interval with a window type and the beat type of a non-defective received transient interval,

(d2) replacing transform coefficients of the defective transient interval with transform coefficients from the matching non-defective received transient interval.

34. (new) A method as in claim 12 wherein step (d) comprises, as to each of the defective transient intervals,

(d1) replacing transform coefficients for a low-frequency band and for a high-frequency band with transform coefficients from a received transient interval not identified as defective, and

(d2) replacing transform coefficients for a mid-frequency band with transform coefficients from a received interval other than the interval supplying the replacement coefficients in step (d1).

35. (new) A method as in claim 34, further comprising the steps of:

(e) as to each of the defective transient intervals,

(e1) inversely transforming the mid-frequency band replaced coefficients to a time domain component,

(e2) inversely transforming the low-frequency and high-frequency band replaced coefficients to a time domain component, and

(e3) constructing a replacement signal in the time domain corresponding to the defective transient interval by weighting and combining the time domain components of steps (e1) and (e2).

36. (new) A method as in claim 35, wherein step (e3) comprises weighting the time domain components of steps (e1) and (e2) using triangle functions.

37. (new) A device as in claim 21 wherein step (d) comprises, as to each of the defective transient intervals, providing replacement transform coefficients obtained from a previously-received transient interval.

38. (new) A device as in claim 21 wherein the decoder is further configured to perform steps that include

(e) as to each of the defective transient intervals,

(e1) matching a window type of the defective transient interval with a window type of a received transient interval not identified as defective, and

(e2) replacing transform coefficients of the defective transient interval with transform coefficients from the matching non-defective received transient interval.

39. (new) A device as in claim 21 wherein the decoder is further configured to perform steps that include

(e) identifying each of multiple transient intervals received in step (a) by a type of beat in the audio segment to which that transient interval corresponds, and

(f) as to each of the defective transient intervals,

(f1) matching the beat type of the defective transient interval with the beat type of a non-defective received transient interval, and

(f2) replacing transform coefficients of the defective transient interval with transform coefficients from the matching non-defective received transient interval.

40. (new) A device as in claim 21 wherein the decoder is further configured to perform steps that include

(e) identifying each of multiple transient intervals received in step (a) by a type of beat in the audio segment to which that transient interval corresponds, and

(f) as to each of the defective transient intervals,

(f1) matching a window type and the beat type of the defective transient interval with a window type and the beat type of a non-defective received transient interval,

(f2) replacing transform coefficients of the defective transient interval with transform coefficients from the matching non-defective received transient interval.

41. (new) A device as in claim 21 wherein the decoder is further configured to perform steps that include

(e) as to each of the defective transient intervals,

(e1) replacing transform coefficients for a low-frequency band and for a high-frequency band with transform coefficients from a received transient interval not identified as defective, and

(e2) replacing transform coefficients for a mid-frequency band with transform coefficients from a received interval other than the interval supplying the replacement coefficients in step (e1).

42. (new) A device as in claim 41 wherein the decoder is further configured to perform steps that include

(e) as to each of the defective transient intervals,

(e1) inversely transforming the mid-frequency band replaced coefficients to a time domain component,

(e2) inversely transforming the low-frequency and high-frequency band replaced coefficients to a time domain component, and

(e3) constructing a replacement signal in the time domain corresponding to the defective transient interval by weighting and combining the time domain components of steps (e1) and (e2).

43. (new) A device as in claim 42, wherein step (e3) comprises weighting the time domain components of steps (e1) and (e2) using triangle functions.